WHAT IS CLAIMED IS:

1. A plating system for bone fixation for mammalian bone structures, comprising:

(a) a first plate segment and a second plate segment, each of the segments adapted to be affixed onto a bone structure with another bone structure in an aligned spatial relationship;

(b) a coupler means (coupling segment) being securable to the first plate segment and the second plate segment, the coupler means being selectively adjustable to define the movement (compression and subsidence) of the bone structures in the aligned spatial relationship.

2. The plating system of Claim 1 wherein the coupler means is selectively adjustable to enable compression and subsidence of the bone structures in the aligned spatial relationship.

3. The plating system of Claim 1 wherein the plates are slidably engaged substantially in the aligned spatial relationship.

4. The plating system of Claim 1 wherein each of the plates has a projection portion and a receiving channel for complemental placement of the projection portion of one plate segment into the receiving channel of another plate segment.

5. The plating system of Claim 1 wherein the first plate segment has at least one projection portion and the second plate segment has at least one receiving channel to receive the projection portion of first plate segment.

6. The plating system of Claim 5 wherein the projection portion has a generally elongated body with cross-section shape selected from the shapes of a triangle, truncated triangle, rectangle, modified rectangle, and a trapezoid.

7. The plating system of Claim 1 wherein the coupler means is selectively engaged with first plate segment and the second plate segment to secure one or both the plate segments to define the movement of the bone structures in the aligned spatial relationship.

8. The plating system of Claim 1 wherein the coupler means comprises an elongated element and a plurality of fasteners for selectively engaging the plating segments.

9. The plating system of Claim 8 wherein the coupler means has an opening to receive at least one fastener passing therethrough to engage one or both of the plate segments.

10. The plating system of Claim 1 wherein the coupler means comprises stepped channel openings formed on the first plate segment and the second plate segment and arranged in a substantially overlapping relationship and defining an internal travel pathway between the first and the second plate segments; a bolt element having a threaded shank portion passing through the stepped channel openings with locking mechanisms at the ends of the shank to secure the plate segments; and a frictional element fitted in the internal travel pathway and engageable by the threaded shank portion to couple the bolt element to either the first plate segment or the second plate segment.

11. The plating system of Claim 10 wherein the frictional element has threads cooperating with and carried by the threaded shank portion of the bolt element to effect the selective engagement of the first plate segment or the second plate segment.

12. The plating system of Claim 10 wherein the bolt element and the of the openings of the stepped channels are of substantially similar width.

13. The plating system of Claim 10 wherein at least a portion of the frictional element and the internal travel pathway are of substantially similar width.

14. The plating system of Claim 10 wherein the channel of the first plate segment has an enlarged opening defining a keyhole shape adapted to accept the locking mechanism including of the bolt element passing therethrough between a first position outside the channel opening of the first plate segment to affix the spatial relationship of the plate segments in compression and a second position of the retainer within the internal travel pathway and enabling the relative movement of the first plate segment and the second plate segment for bone subsidence.

15. The plating system of Claim 1 wherein the plate segments each has at least one opening to accommodate a bone screw for securing the plate segments onto the bone structures.

16. The plating system of Claim 1 wherein the plate segments each has at least one opening to receive a portion of a distraction screw implanted at a predeternined landmark of the bone structure.

17. The plating system of Claim 1 wherein the mammalian bone structure is a cancellous bone or cortical bone.

18. The plating system of Claim 1, wherein at least a portion of the plating segments is constructed of a biologically adaptable or biologically compatible material.

19. The plating system of Claim 18 wherein the biologically adaptable or biologically compatible material is selected from the group of materials consisting of stainless steel, titanium, combination metallic alloys, plastics, ceramics, osteo-conductive materials, and bio-active materials.

20. The plating system of Claim 19 wherein the osteo-conductive material is a deminerized bone matrix, a hyroxyapatite, a transforming growth factor, platelet-derived growth factor or a bone-morphogenic protein.

21. The plating system of Claim 1, wherein each of the plate segments has curved surfaces to conform to the surface contours of the bone structures.

22. The plating system of Claim 1 wherein each of the plate further comprises an end coupler adaptable to be engaged by a distraction screw.

23. The plating system of Claim 22 wherein the end coupler includes means for engagement with the distraction screw comprising interfitting threads or complemental spines.

24. A modular plating system for bone fixation for mammalian bone structures comprising:

(a) a plurality of plate segments, each of the segments adapted to be affixed onto a bone structure with another bone structure in an aligned spatial relationship; and

(b) a coupler means (coupling segment) being securable to at least two of the plate segments and selectively adjustable to define the movement (compression and subsidence) of the bone structures in the aligned spatial relationship.

25. A method for fixating mammalian bone structures comprising the steps of:

(a) implanting a first prosthetic device and a second prosthetic device at predefined locations along the anatomically desired plane of the bone structures;

(b) securing a first plate segment and a second plate segment onto the first and the second prosthetic devices, respectively; and

(c) attaching a coupler to the first plate segment and the second plate segment, wherein the coupler is selectively adjustable to define movement of the bone structures in the aligned spatial relationship.

26. The method of Claim 25, further comprising securing the first plate segment and the second plate segment to the bone structures.

27. The method of Claim 25 wherein each prosthetic device includes a portion of a distraction screw.

28. The method of Claim 25 wherein the anatomically desired plane of the bone structures comprises the centerline of the bone structures.

29. The method of Claim 25 wherein the securing step further comprises:

compressing a portion of the prosthetic device;

placing a portion of each plate segment between the bone structure and the compressed portion of the prosthetic device; and

decompressing the portion of the prosthetic device to secure the plate segment between the bone structure and the prosthetic device.

30. The method of Claim 25 wherein the coupler is adjustable to maintain compression of the bone structures.

31. The method of Claim 25 wherein the coupler is adjustable to allow subsidence of the bone structures.

32. A method for fixating mammalian bone structures comprising the steps of:

(a) on at least two mammalian bone structures respectively position a first distraction screw and a second distraction screw, each of the distraction screws comprises a proximal segment having an elongated body with an internal bore extending through the length of the elongated body; an deployable member disposed within the internal bore of the elongated body and adapted to be retractably deployed outside the internal bore and a prosthetic device including a head portion and a threaded shank portion and being detachably coupled to the elongated body;

(b) rotatably manipulating the distraction screws to effect the threading and affixation of the shank portions of the prosthetic devices onto the mammalian bone structures;

(c) detaching the elongated member segments from the prosthetic devices on the respective mammalian bone structures; and

(d) securing onto the first prosthetic device and the second prosthetic device respectively a first plate segment and a second plate segment, each of the segments being aligned in a spatial relationship and securing a coupler means (coupling segment) to the first plate segment and the second plate segment, the coupler means being selectively adjustable to define the movement (compression and subsidence) of the bone structures in the aligned spatial relationship.